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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,922

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Andrea Giraldo

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03/20/2008

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

ABDIN, SHAHEDA A

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

03/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,922	<b>Applicant(s)</b> GIRALDO ET AL.	
	<b>Examiner</b> SHAHEDA A. ABDIN	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 12/18/2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Response to Amendment**

1. The amendment filed on 12/18/2007 has been entered and considered by examiner.

### **Drawings**

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Fig. 4-5 are used **hand written labeling**. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Knapp et al. (US. Patent No: 6373454 B1).

(1) Regarding claim 16:

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Knapp (Fig. 3) discloses a pixel cell (10) in an active matrix display device, comprising a data line (14), a drive element (30), an emissive element (20), and a first switch (37) provided between the data line (14) and the drive element (30), and a second switch (33) provided between the data line (14) and the anode (i.e. the anode of emissive element 20) of the emissive element (20) (column 7, lines 26-55, fig. 3)(note that the second switch 33 is provided between the data line 14 and the anode of display element 20).

(2) Regarding claim 17:

Knapp teaches the first switch (i.e. 37) and the second switch (33) are provided in parallel between the data line (14) and the anode of the emissive element (20). (note that switches 37 and 33 are parallel with respect to 12 which is provided between the data line 14 and the anode of the emissive element 20, see Fig. 3).

### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1-3, 12-15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp in view of Kimura et al. (US Pub. No: 2004/0085270 A1).

(1) Regarding claims 12:

Knapp discloses a an active matrix display device comprising a plurality of fixed

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cells(10) each having a current driver emissive element (20) and means for connecting a data line (14) to the first electrode (cathode) of the emissive element; further characterizing by:

Means (31) for providing a sensing voltage (positive voltage) which is negative in respect of an emissive element cathode voltage, thereby reverse bias the emission element (see column 8)),

Means (30,32,38) for detecting any leakage current flowing through emissive element (i.e. current  $I_{in}$  differs from the drive current for the display element caused by the switch and capacitance. Thus it is necessary to sample or detect the leakage current) (see column 8, lines 35-46).

Knapp teaches a data line and emissive element but does not teach sensing voltage provided on the data line.

However, Kimura in the same field of endeavor discloses a sensing voltage (e.g. Vdd or Vss) provided on the data line ([0145-0152], Fig. 19A and 19B).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a method of sensing voltage as taught by Kimura into the data line of Knapp so a sensing voltage can be provided on the data line to the reverse bias of emissive element. In this configuration the system would have high quality image which will be capable of suppressing the luminance variations and achieving a consistent luminance (Kimura,[0008]).

(2) Regarding claim 19:

Knapp teaches the first electrode is an anode (i.e. anode of the display element 20) of the emissive element (20) (see Fig. 3).

(3) Regarding claim 1:

This claim differs from claim 12 only in that the limitations “repeated output periods” is additionally recited. This limitation is taught by Knapp as the addressing periods (see column 6, lines 44-59 and column 8, lines 44-53)

(4) Regarding claim 2:

Knapp teaches sensing periods being performed recurrently (repeatedly) separated by a predefined number of output period (column 8, lines 44-53).

(5) Regarding claim 3:

Kimura teaches pixel cell comprises two switches (12,13) for connecting said data line to the drive element and/or the anode of the emissive element said method further comprising:

controlling said switches so that, during said sensing period the data line (14) is connected only to said first electrode (electrode of LED) (see Fig. 19C).

(6) Regarding claim 13:

Knapp teaches each pixel cell (10) comprises two switches (30 and 37) arranged

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in series between the data line (14) and the drive element (20), the emissive element first electrode (first electrode for LED 20) being connected to a point (e.g. 36) between said switches (column 8, lines 30-52, and Fig. 4).

(7) Regarding claim 14:

Knapp teaches each pixel cell (10) comprises a first switch (37) provided between the data line (14) and the drive element (30), and a second switch (33) provided between the data line (14) and the first electrode (first electrode in LED 20) of the emissive element (20) (column 8, lines 30-52, and Fig. 4).

(8) Regarding claim 15:

Knapp teaches the emissive element (20) is an organic or polymer light emitting diode (column 5, lines 38-55).

(9) Regarding claims 18 and 20:

Knapp teaches the first electrode is an anode (i.e. anode of the display element 20) of the emissive element (20) (see Fig. 3).

### **Response to Arguments**

7. Applicant's arguments with respect to claims 1-20 have been considered but not persuasive.

**Regarding claim 16**, Applicant argues that Knapp reference does not disclose "second switch is provided between the data lines and the anode of the emissive

element". Examiner disagree applicant's point of view. Note that second switch (33) is **provided** between the data line (14) and the anode of the emissive element (20), see Fig. 3. Moreover, Applicant argues that "Knapp discloses a switch connected to the cathode of the display element 20". However, the limitation of claim 16 is not limited to **connect** to the anode instead of **provided**. It reads on broad claimed language.

**Regarding claim 12**, Applicant argues that "Knapp's sampling phase is completely different from the leakage current detection recited in claim 12". However, the claim language is not limited to certain type of leakage current detection; rejection of claim 12 is based on claim limitation recited in the claim. The term "leakage current" reads broad claim limitations. Thus the reference of Knapp meet the claim limitations.

Applicant also argues that "no where in Kimura is there any disclosure of sensin voltage". Examiner disagree applicant's point of view. Note that in Kimura's reference clearly shows that Vdd generated by Vgs which is sensed by TFT and current supplied to capacitor so that it can allow the gate source voltage to reach a desired voltage, see [0166]. Therefore, voltage Vdd is interpreted as sensing voltage to the data line. More specifically, any applied voltage from a voltage generator to the transistor or TFT for a pixel could treated as sensing voltage because in order to transmit the voltage on the data line transistor must need to sense or detect the amount of voltage. Thus the reference of Kimura meet the claim limitation.



**Regarding claim 1**, Applicant argues that “Examiner merely broadly stated that there is a single different between claim 1 and earlier discussed claim 12. Such is clearly incorrect and incomplete” and claim 1 has more limitation besides the limitation “repeated output period” such as “a sensing period”. Examiner disagree applicant’s point of view. Note that limitation of claim 1 is similar to claim 12 except the limitation “repeated output period “, because the function of the phrase “a sensing period” is recited in such that during a sensing period “connecting the data line to the first electrode of the emissive element, providing on the data line a sensing voltage” which is similar to the limitation of claim 12, therefore claim 1 is rejected on the same rationale bases as described in claim 12. Note that claim 12 is broader than claim 1, in claim 12 sensing voltage is recited, the recited sense voltage must be required a sensing period. Since sensing voltage is discussed in claim 12 then the duration of sensing period is apparently contained in claim 12.

### **Conclusion**

7. THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Inquiry**

9. Any inquiry concerning this communication should be directed to the examiner, Shaheda Abdin, at (571) 270-1673 Monday- Friday 7:30 AM to 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard HJerpe, can be reached at (571) 272-7691.

Information regarding the status on an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9799 (IN USA OR CANADA) or 571-272-1000.

Any response to this action should be mailed to:

Commissioner of patents and trademarks  
Washington, D.C. 20231

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Or fax to:

(703)872-9314 (for Technology Center 2600 only)

Shaheda Abdin

03/16/2008

/Richard Hjerpe/

Supervisory Patent Examiner, Art Unit 2629

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